

REMARKS

Claims 1-17, 28, 29 and 32-36 are rejected under 35 USC § 103(a) as being unpatentable over Gibbs (USP 3406223) in view of Fukumoto et al (USP 5603927) and Shinohara et al (USP 5, 866,671).

Claims 10-27, 29-31 and 34-38 have been canceled making the objections to these claims moot. Claims 1, 4, 5, 32 and 33 have been amended and new claim 39 has been added. Claims 1 and 32 have been amended to include the limitations of the additives such as succinimide which is disclosed in the specification, for instance on page 5, line 9 and Thus, this claim amendment is not new matter. Claim 5 has been amended to be an independent claim incorporating the limitations of original claim 1. New claim 39 incorporates the limitations of original claim 32 and the amino compound of ethyl *p*-aminobenzoate disclosed in prior claims and the specification. Thus, new claim 39 does not add new matter.

Applicant contends that present invention is not obvious in view of the cited prior art. Claims 1, 5, 32 and 39 incorporate the limitation of the pK_b range of 2-8 (i.e. weak basicity) for the low molecular weight amino compounds of the present invention. As stated by the Examiner in paper 7, item 5, Gibbs does not disclose the pK_b value in this range. The weak basicity (i.e. pK_b of 2-8 and preferably 4-8, claim 2) for the low molecular weight amino compounds of the present invention, results in a reduction of at least 50% of the formaldehyde concentration of the polyacetal resin. In contrast, the examiner states that the pK_b value is not disclosed by Gibbs (see paper no 7, page 2, item 5, paragraph 4). Furthermore, the amino compounds disclosed in Gibbs as suitable for blending or mixing a superpolyamide, a phenolic antioxidant and one or more of a selected class of alpha, alpha-disubstituted aliphatic amines resulting in improvement of resistance to basic hydrolysis and resistance to hydrolytic degradation of POM include a wide range of amine types. Although the Examiner urges that some of amino compounds disclosed in Gibbs may be suitable for the use in the present invention, the properties of the odor-reducing additives in the present invention are not inherent to all the amines disclosed in Gibbs. On the contrary, the Gibbs disclosure implies that the amines are not reactive and as such does not recognize the beneficial effect of the present invention. Claims 1 and 32, as amended, specifically exclude those amino compounds described by the formula in Gibbs. Thus the present invention is distinguishable from Gibbs.

Claims 5 and 39 are not obvious in view of the cited art of Fukomoto. Fukomoto discloses an amine acid salt that is not capable of binding the formaldehyde odor because it is incapable of nucleophilic attack of the carbonyl

group of the formaldehyde. In contrast, the present invention is able to bind the formaldehyde odor.

Furthermore, the pKb of the compounds disclosed in Fukumoto et al are 9.4 or above. This is distinguishable from the amino compounds of the present invention, where the pKb of the amino compound disclosed as typical of primary or secondary amino compounds is in the range of 2 – 8. Applicants further contend that Fukumoto specifically teaches the use of pKb of 9.4 or more and thus teaches away from the use of the pkb range of the present invention.

Shinohara et al does not disclose the pKb range of the present invention. Shinohara et al discloses a composition comprising polyacetal polymer and an organic cyclic compound having an active imino group, which is clearly distinguishable from the amino compounds in the present invention.

Applicant contends that the prior art does not lead one to combine them to obtain the present invention. However, even if the above cited art were combined they would not yield the present invention as none of the cited art disclose the pKb range of 2-8 or the weak basicity of the present invention for the amino compounds to considerably reduce the formaldehyde odor for polyacetal resins and molded parts (i.e. less than 50 % of the formaldehyde concentration). Furthermore, the present invention specifically excludes the amino compounds of Gibbs and the acid salts of the prior art differ from the present invention in that amine acid salts are unable to bind the formaldehyde, thus reducing the odor as required in the present invention. (i.e. acid salts of amino-benzoic acid esters taught at column 4, line 17 of Fukumoto, are incapable of nucleophilic attack of the carbonyl group of the formaldehyde.) For the above reasons, claims 1, 5, 32 and 39 and the claims dependent therefrom are believed to be in allowable condition. Reconsideration and allowance of the present invention is respectfully requested.

Please charge to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company) the two-month extension fee for this response. If this amount is insufficient or incorrect, please charge or credit the above-referenced Deposit Account appropriately.

Application No.: 09/852383
Docket No.: AD6588 US CNT

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,

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